

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 10/053,555

REMARKS

Claims 1-7 and 9-13 are all the claims pending in the application. Applicants cancel claim 8 and add claims 9-13 to further define the invention as discussed in detail below.

The drawings file January 24, 2002 are objected to by the Examiner; specifically, the Examiner has indicated that Figure 12 should be designated with the legend --Prior Art-- because only that which is old is illustrated. Accordingly, Applicants amend Fig. 12 in the attached Request for Approval of Proposed Drawing Corrections.

Claims 1-8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Inaba (5,737,837).

Analysis

Claim 1 is the only claim in independent form; therefore, the following discussion is initially directed to this independent claim

Claim 1 is directed to a junction flexible wiring circuit board which includes a metal layer formed as a front surface layer of the board.

In the prior art, the board does not include this metal layer. The metal layer (represented as 27 in Fig. 1) adjusts the characteristic impedance of the flexible wiring circuit board, but does not require a high mechanical strength. Because the junction flexible wiring circuit board has the metal layer in the same manner as the suspension board has the metal substrate, the characteristic impedance of the junction flexible wiring circuit board can be set to be nearer to or preferably substantially equal to that of the suspension board. Thus, high-frequency signal transmission can be improved.

Inaba is directed to a magnetic head junction board. Although this reference does disclose the presence of a metal layer 2, the present invention is distinguishable from Inaba.

Claim 1 is directed to a junction flexible wiring circuit board for connecting a suspension board and a control circuit board. The junction flexible wiring circuit board has a metal layer which is disposed on the junction flexible wiring circuit board in a manner so as to be formed substantially uniformly in the lengthwise direction except portions where the terminal portions are provided.

Inaba fails to disclose this structure. The alleged metal layer 2 is formed on the entire surface 1.

In the present invention, metal layer is formed (see Figs. 1, 4C) along the lengthwise direction of the board, except where the terminal portions are provided (Figs. 1, 4C). The novel structure of the present invention allows for the characteristic impedance of the junction flexible wiring board and the characteristic impedance of the magnetic head and the control circuit board to be within the range of $\pm 10\%$. The invention also allows the characteristic impedance of the flexible wiring circuit board and the suspension board to be within the range of $\pm 10\%$.

In view of the foregoing, claim 1 is patentable.

In addition, claims 2-7 are patentable for at least the same reasons as claim 1, by virtue of their dependency therefrom.

Applicants add claims 9-13 to further define the invention. Claims 9-12 are directed to a combination of the flexible board, circuit board and suspension board, and thus the characteristic impedance similarities between the boards is positively recited.

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Claim 9 recites the characteristic impedance discussed above. There is no teaching or suggestion that Inaba is capable of achieving this feature.

Claim 10 clarifies that the metal layer of the flexible wiring circuit board is in the same manner as the metal substrate of the suspension board, thus allowing the characteristic impedance of the two boards to be substantially equal. (See page 19, last paragraph.) Inaba completely fails to discuss the metal layer of the suspension board, and certainly makes no mention of how such a metal layer would be disposed on the flexible board in the same manner or that the characteristic impedance could be substantially equal for the two boards. Thus, claim 10 is patentable.

Claims 11 and 12 are directed to the thickness of the metal layer, and claim 13 is directed to the structure of the metal layer being formed on both sides of the junction flexible wiring circuit board. These claims are patentable for at least the same reasons as claim 1, as well as due to their own recitations contained therein.


Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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PATENT TRADEMARK OFFICE

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 8 is canceled.

The claims are amended as follows:

1. (Amended) A junction flexible wiring circuit board used for performing junction between a suspension board for mounting a magnetic head thereon and a control circuit board for operating said magnetic head, said junction flexible wiring circuit board comprising:

a metal layer formed as a front surface layer of said junction flexible wiring circuit board,
wherein said metal layer is formed substantially uniformly in the lengthwise direction
except portions where terminal portions are provided.

7. (Amended) A junction flexible wiring circuit board according to Claim 1, wherein said metal layer is formed at least on a side of said junction flexible wiring circuit board on which [a] the terminal [portion] portions connected to said suspension board [is] are provided.

Claims 9-13 are added as new claims.